plane
GRUMMAN
news

Continuing pursuit of new markets, Towl says at annual meeting

A smoothly flowing stockholders meeting, held May 18 in Plant 4, Bethpage, and attended by an unusually large representation of Grumman stockholders, roared to a highly unorthodox climax with an impromptu speech by Norvin Greene. An investment consultant, Greene and his brother Lancaster have been attending Grumman annual meetings for 25 years, often addressing searching questions to the officers during the question and answer period.

Congratulating "Clint Towl, Lew Evans, Bill Schwendler, the other officers, and the employees" as being "outstanding in the aerospace field today," he concluded some remarks on the Company's "very solid programs" and its "honest accounting practices" by saying, "I thought you might all like to rise and give a hand" for Grumman. And that's what happened, with enthusiasm, and the meeting was adjourned.

On the occasion of Grumman's 40th anniversary, and 40th year of paying dividends to stockholders, the annual meeting of Grumman Corporation was opened at 2 p.m. by Clint Towl, Chairman of the Board and Chief Executive Officer, in Hangar 3, Plant 4.

Elect directors

The single order of formal business was the election of three directors: Ellis L. Phillips Jr., professor of law, Columbia University, and George F. Titterton, retired Senior Vice President of Grumman, and Arthur L. Wadsworth, executive vice president, Dillon, Read & Co., Inc., who was named to fill the directorship vacated by John L. Collyer, former president and chairman of B. F. Goodrich Company, a Grumman director since 1960.

The brief formal part of the meeting concluded, Clint Towl took the microphone to point out that Senior Vice President Dick Hutton had reviewed the "state of the Company" very ably in the past, but this year a new plan was being tried, and he would try to give background against which President Lew Evans would mention some particulars on the programs.

In July, 1969, he reminded his audience, "we changed our name to Grumman Corporation and began restructuring the Company. We'd long realized that diversification was the key to survival in our industry, and we knew that we could market our accumulated capabilities in broader new areas of business. . . . Today, Grumman Corporation is the rather proud parent of four healthy subsidiaries, each of which is most actively pursuing its own business interests with considerable promise of success.

"Grumman Aerospace Corporation, our largest subsidiary . . . performs all of our military and commercial aircraft and space program work, and develops new products for the future." He mentioned a contract "for the design of a tracked air cushion research vehicle that may someday help alleviate mass transportation problems."

Ecosystems' role

The new department, Ecosystems, "conceived as a service organization, will employ airborne remote sensing and camera equipment for such vital tasks as mapping and vegetation analysis, pollution control, and oil and mineral exploration."

He touched on negotiations concerning a study of problems associated with the development of an air commuter hydroport in downtown New York (this, a Grumman Aerospace investigation), and then moved on to Grumman Allied Industries, which has developed a self-contained motor home "that will accommodate six people in a very efficient and comfortable unit." (A model of this was on display.)

Using the same basic vehicle, Grumman Allied has also developed a 15-20 passenger "minicoach" for busing. Towl also described a Grumman Allied modular vacation home "that can be trucked to any pre-selected site and assembled in a single day."

Of Grumman Data Systems, youngest of the subsidiaries, Clint Towl said it had completed a study for the New York

(Continued on page 7)

Look at the future. **Stockholders who attended the annual meeting on May 18 at Bethpage had the opportunity to view many of the Company's designs for the future. Above, some visistors inspect a Jeep equipped with special Markow wheels, originally designed for use on the lunar surface, that can operate on all types of terrain in all temperatures. Below, Mike C iminera of the F-14 Program points out a few salient features of the Navy's new fighter.**

Vol. 29, No. 10, Bethpage, N. Y., May 22, 1970

Ecosystems gets two contracts for resource survey, radar map

In the deep woods surrounding Wood River-Tikchik Lake in southwestern Alaska, field crews from Grumman Ecosystems soon will be surveying sections of the 2,700 square mile tract while gathering information for a Resource Atlas of the region. The ecological survey was initiated April 30 when the Alaska state government signed a contract with the Ecosystems Department, with funds to be provided by the Federal Bureau of Outdoor Recreation.

And in the next week or so, says Bill Schwendler Jr., who heads Ecosystems, a Grumman Mohawk, borrowed from the Army, will be flying over Connecticut and Rhode Island on a $17,000 radar mapping assignment from the U.S. Geological Survey. The U.S.G.S. is part of the Department of the Interior.

Although there will be some color and infrared color photography contained in the Wood River-Tikchik Lake study, the work will be mainly comprised of a series of maps of vegetation, surficial (surface) geology, soils, hydrology, and wildlife in the area. The field crews, using a chartered light aircraft for local transportation, will make four-week cruises into the region (some in conjunction with the Alaskan Fish & Game Department) to collect samples and other data that will help the state prepare the area for recreational use. Heading the program on-site for the Company is Ron Dagon, a Grumman consultant in the area.

Using Mohawk

Pilot Walter Berndt and Ray Ryan will fly in a two-place Mohawk, using the aircraft's side-looking radar to compile the radar map of Connecticut and Rhode Island. The mapping will take no longer than three weeks, depending on weather conditions. Part of that time will be expended in determining what is the best "look" angle for the aerial mapping; that is, whether it is better to take pictures of the terrain from an angle perpendicular or parallel to the regional surface structure. That phase of the assignment could be designated research and development. Once the look angle is decided upon, it is expected that the final mapping will take approximately 10 hours.

Radar has been most useful in understanding regional geology, according to Warren Trott, program manager for the effort. He points out that an analysis of a similar radar map of Massachusetts, conducted by Grumman's Earth Resources group, shows that radar gives a truer "picture" of the terrain. A photographic mosaic of a large area, similar in size to Massachusetts, would appear as a patchwork quilt with no continuity of surface features. That condition is caused by changes in sun angle—which causes different degrees and angles of shadings—during photographic flights.

Radar mapping, however, is not affected by time of day or weather. An overall radar map or mosaic provides continuity of terrain features that makes evaluation easier and more productive. Radar can also reveal some structural features—such as faults—not always discernible in photographs. When the mapping is finished, Grumman Ecosystems will provide the U.S. Geological Survey an overall radar map of the two-state area.

At Bethpage, work continues on the modification of the Ecosystems turboprop Gulfstream to prepare it for ecological surveys. Included in the modification is the installation of a magnetometer, an instrument that has been used very successfully in recent years in surface explorations for minerals and petroleum, and for geological surveys, Schwendler's group is pointing toward a late-June flight test of the reworked plane; then, in his words, "we expect to head north in July."

Mod men. **Modifications to the Grumman Ecosystems turboprop Gulfstream will prepare the aircraft for its role in aerial ecological surveys. Here, project engineer Ralph Frei (C) works with Aaron Dean (L) and Al Solomito of Final Assembly, Plant 4, installing a Magnetic Anomaly Detection (MAD) boom in the tail of the plane. (Photo by Marie Trimborn)**

CALENDAR of events

Notice of events for period of June 12 - June 26 should reach Plane News by **Tues., June 16.**

Aquatic Assoc.: Tuesdays, 7:30-9, Larkfield Suburban Club pool, swim session, members only; Wed., May 27, Plant 28, 5 p.m., open meeting; Sat., June 6, Coney Island Aquarium, buying of skin & scuba equip. in N.Y. John Reeves, Ext. 2002.

Duplicate Bridge Club: Thursdays, 5:45 p.m., Plant 3 Cafe. Reserv. not req. Partnerships arranged. Pete Harrington, Ext. 1812.

Experimental Aircraft Assoc.: Fri., May 22, Wilson Tech. Ctr., Dix Hills. Cmdr. Whit Johnson, info. ofcr. NAS., "50 years of Naval Aviation," films and slides. Ralph Rice, Ext. 1776.

Ex-Service Men's Club: First Monday of month, 6:30 p.m., Plant 28 Audit., exec. & gen. meeting. Northeastern Cadet Corps every Fri., 7:30 p.m., Co. A, Cherry Lane School, Carle Pl., boys from 10 yrs. H. Dong, Ext. 7525.

Family Campers: Thurs., Fri., Sat., Sun., Cherry Ridge, Honesdale, Pa., joint campout with Empire State campers. Phil Giacini, Ext. 57247.

Fencing Club: Wednesdays & Fridays, 5 p.m., Plant 30 Cafe. Joe Campisi, Ext. 1134.

Horseback Riding Club: Every Sun., 11 a.m., By-Ways Stables, Round Swamp Rd., Huntington. Caren Carlson, Ext. 2725.

Human Factors Society: Fri., May 22, 7:30 p.m., IBM Ofc. Products Div. Hdqtrs., 590 Madison Ave. N.Y., Metropolitan Chap. Dr. Clifford Seitz, GAC P/S Dept. & Dr. Theodore Marton, G.E. Life Science, "Human Factors in Undersea Exploration." G. Fox, Ext. 9431.

Retiree Club: Wed., May 27, 1:30 p.m., Holiday Manor, reg. monthly mtg. Cornelius Ryan, Senior Citizens Com., Town of Oyster Bay. Al Haeussler will show slides of Africa. GAA, Ext. 2133.

Rod & Gun Club: Wed., May 27, 8 p.m., John's Oasis, Hazel St., Hicksville. Bus. mtg. & film, "Story of Fishing in N.Y." Warren Strittmatter, Ext. 1234.

Soc. of Mfg. Engrs. (formerly ASTME): Mon., June 8, 6:30 p.m., Holiday Manor Rest., 345 Hicksville Rd., Bethpage. F. Weis, Voisin, Cannon, Inc., on "Stock Mkt., Investments, and the Engineer." Reserv. by June 5. Sid Hale, Ext. 84013.

Legion of Merit. **Col. George F. Carey Jr., USAF (Ret.) (R), head of Grumman International's office in Bonn, Germany, accepts from American Chargé d'Affaires the Legion of Merit citation, his second. This one was for 'exceptionally meritorious conduct in the performance of outstanding services to the United States while assigned to the Defense Intelligence Agency, from 26 January 1965 to 31 October 1969.'**

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

VELAZQUEZ M. DeJESUS of Plant 11 Tool Fabrication - Plaster Tools, died May 7 at the age of 56. He had been with the Company since 1952, and his home was at 7 Fulton St., Brentwood.

PETER PUSKUS died May 7 at the age of 59. He had been with Grumman 29 years and was in Advanced Programs - Manufacturing Plans/Cost, Plant 22. He lived at 102 Wood St., Lynbrook.

JAMES G. REMSEN of Prototype, Plant 6, died May 7. He was 63 years old and he had completed 21 years with the Company. His home was on Bayview Road, P.O. Box 251, Remsenburg.

WILL F. JOHNSTON of Part Fabrication, Plant 14, died May 9 at the age of 50. He lived at 15 Chester Ave., Stewart Manor, and had been with Grumman since 1966.

GRANT L. WING died May 10 at the age of 47. His department was P/S Electronics & Integretation Engineering, and his home was at 5 Washington St., Glen Cove.

HENRY L. MILLER of Gulfstream Overhaul & Repair, Plant 4, died May 13. He was 41 years old and had been with Grumman since 1952. He lived at 44 Ketcham Ave., Hicksville.

CATALDO PETRONE died May 18 at the age of 58. He had been with Grumman since 1948, and he worked in Product Manufacturing - Management Information Systems, Plant 41. He lived at 151 Rosalie Dr., East Meadow.

Grumman Houston team wins NASA praise for LM rework

HOUSTON, TEX. . . . Grumman earned 25 incentive points and words of praise from National Aeronautics and Space Administration officials a couple of weeks ago when Houston crews cut three weeks off the deadline for readying a LM descent stage for testing extended lunar stay-time modifications.

Area director Jack Buxton notified his personnel of the Manned Spacecraft Center's reaction to the job as they prepared LM Test Article No. 5 (LTA-5) for shipment to White Sands Test Facility, N. M.

Buxton cited words of praise from LM Manager Owen Morris, Apollo Spacecraft Program Office, in referring to the professional performance exhibited by the Houston Grumman team in modifying the test article. (To show that it has been refurbished, LTA-5 is now designated LTA-5R.) The incentive points, which Morris called "money in the bank," were earned because the job was completed so efficiently. Shipment to White Sands was accomplished May 6, exactly three weeks earlier than NASA's deadline.

Buxton said that a good deal of the credit goes to Manufacturing Superintendent Frank Baerst and his men who, in addition to reworking the vehicle, fabricated the necessary hardware to accomplish the job.

Besides saving three weeks' time, Operations Manager Mo Roth said that the task was completed at a saving of 9,000 man hours.

The job, which was under the direction of Project Manager Joe McArdle, involved adding approximately 100 new measurement points to the structure to enable White Sands engineers to instrument fully the performance of the modified system.

LTA-5's upper decks were reworked and the lower decks replaced to take the new, lengthened propellant tanks that will add some 1,200 additional pounds of usable fuel and oxidizer in the descent stage of LMs 10 through 13 (Apollo 16-19).

The tanks were installed in Houston. Modifications to the propellant distribution system included removing the cross-feed balance lines—the plumbing connecting one fuel tank with the other and oxidizer tanks, one to the other, to assure an even distribution of weight as the tanks are depleted. It also included adding lightweight flow-control orifices to the main lines to do that same job.

At WSTF a descent engine with a 10-inch extension of the nozzle will be put in place and static firing tests conducted to demonstrate:

- The modified system's capability to increase hover time for lunar landing.
- The capability to accommodate the extra weight added to LM by consumables that will extend lunar surface time by almost another day.

LM face-lifting. **Lunar Module Test Article No. 5 has undergone extensive refurbishing in Houston to ready it for propulsion system tests at White Sands Test Facility. The team of Grumman technicians working on the modifications completed the job three weeks early to earn praise and incentive points from the National Aeronautics and Space Administration.**

It was a beautiful day, and then . . .

STUART, FLA. . . . Things were pretty quiet for Astronaut Bill Anders on April 13. He had traveled from Kennedy Space Center down to the Grumman facility here for a briefing and flight in the Army's surveillance system, the OV-1 Mohawk. Things were going well with Apollo 13; 'though there had been some momentary difficulty with the booster shortly after launch, the spacecraft was headed out into space with an appointment on the moon a few days away.

Bill is shown above with Lt. Col. A. C. Bowdoin, commanding officer of the Army's Grumman Plant Activity at Stuart before he took off for a flight with Grumman pilot Dave Seaman in the twin turboprop Mohawk. Things changed pretty quickly after that. Apollo 13 ran into trouble that night, and Bill was soon flying up to the Cape—in a Mohawk—with an eventual destination of the Manned Spacecraft Center in Houston where he did the briefing this time. Whom did he brief?—Vice President Agnew.

Start tanker modification at Plant 77

STUART, FLA. . . . Modification of A-6A aircraft into KA-6D tankers, for which the Navy recently awarded Grumman Aerospace a contract totaling approximately $6,350,000, has already started here at Plant 77 according to Program Manager Ron Peterson.

Development of the KA-6D tanker was made at Calverton, and modification of four more aircraft there will continue until September, but the program will be centered at Stuart. The first six A-6As have already been delivered by the Navy for the modification.

The recent Navy award provides for a potential order of 48 of the tankers to be delivered through December of 1971. The total value of the contract could equal $31 million, depending upon logistics requirements.

Peterson has been on the scene at Stuart but is based at Bethpage. Jim Houlik is Production Manufacturing manager at the Florida facility.

The KA-6D will extend carrier-based aircraft combat radius and has the capability of refueling any of the fighter and attack aircraft in Fleet service. With visual daylight bombing capabilities retained, the tankers will be fitted with four external wing tanks, plus one tank under the center fuselage to hold a backup refuelng system.

Ready LM-8 for altitude tests at KSC

KENNEDY SPACE CENTER, FLA. . . . The excitement of Apollo 13 had scarcely subsided when the Grumman team at Cape Kennedy turned its full attention on Lunar Module 8 with a series of complex tests to prepare it for the next moon mission aboard Apollo 14.

John Adamoli, Spacecraft Test manager for LM-8, and his crew are readying for the critical altitude chamber checkout that will start June 8.

Super-critical helium tests are being made now on LM-8. The cryogenic systems will be checked out prior to a sea-level simulation run and a series of manned and unmanned altitude tests. Many expert eyes will be focused on the LM as all systems are thoroughly probed for any inconsistencies.

Two of the Apollo 14 crew will participate in the manned altitude tests, with the entire test series extending about two weeks. While the LM vehicle is in "space" at a simulated altitude of over 200,000 feet, all systems will be scrutinized to make sure that they are functioning perfectly. Several of the runs will be manned tests to prove out LM-8's Environmental Control System that provides life support for the astronauts while they are in space.

More on Aquarius...

THE SECRETARY OF THE NAVY
WASHINGTON, D.C. 20350

22 April 1970

RECEIVED
APR 27 1970
GRUMMAN CORPORATION
PRESIDENT'S OFFICE

Mr. L. J. Evans, President
Grumman Aerospace Corporation
Bethpage, Long Island, New York 11714

Dear Lew:

Thank you for the picture of the F-14 in full flight. You were thoughtful to send it and I am confident it's a harbinger of the right thing next January or February.

May I add my voice to the hundreds of others in extending to you and all at Grumman heartiest possible congratulations for the terrific job you did on the Lem. Never has Grumman workmanship been put to more of a test nor come through with such flying colors -- and, I might add, with such visibility! You and every single person at Grumman should take tremendous pride in what you did on that piece of equipment.

Very best personal wishes.

Sincerely yours,

John H. Chafee

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

APR 27 1970

OFFICE OF THE ADMINISTRATOR

Mr. L. J. Evans
President, Grumman Corporation
Bethpage
Long Island, New York 11714

Dear Mr. Evans:

I am writing to express my appreciation for the help you gave us during the critical hours of the Apollo 13 mission which proved to be very important to the safe return of the astronaut crew. The active part you played as a member of the Recovery Progress Review Council was extremely helpful, and your presence added to our confidence in the Council. Indeed, the Grumman Corporation and its fine team of subcontractors can take great pride in the operation of the Lunar Module which served both as a lifeboat for the crew and as a tug for the more massive Command and Service Modules.

Our philosophy of safety through multi-level redundancy, reliably implemented by your company and its fine contractor team, was quite well borne out by the happy ending of this mission. The Grumman contractor team played a vital role, and we at NASA thank you.

Sincerely yours,

T. O. Paine
Administrator

Let's put it! Grumman and Apollo 13 brought us back. Thanks

Jim Lovell
Jack Swigert
Fred W. Haise

REPLY TO ATTN OF:

Mr. L. J. Eva
President, Gru
South Oyster Ba
Bethpage, New

Dear Lew:

I want to express
Apollo 13 Flight Pr
Center during the p

The program visibil
you provided were c
Apollo 13 Astronauts.
NASA, contractor and
attention the status of the spacecraft and the questions which were in
the minds of the technical people associated with the program led us
quickly to review all of the factors involved.

My sincere thanks also to the members of your organization who w
involved in the mission and provided such outstanding performanc
back-up technical support.

I trust that we will never again be faced with the requirements fo
comparable committee in future missions. However, I believe
us were greatly impressed by how quickly the space team reac
those emergency conditions.

Thank you again.

Sincerely,

Dale D. Myers
Associate Administrator
for Manned Space Flight

suggestions that
- safe return of the
such a Council, representing key
Force officials, was able to bring to m

The Apollo 13 crew is back on earth thanks to Grumman

Jim Lovell
Jack Swigert
Fred W. Haise

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS 77058

IN REPLY REFER TO: PA-70-4-6

RECEIVED
APR 27 1970
GRUMMAN CORPORATION
PRESIDENT'S OFFICE

April 21, 1970

Mr. Llewellyn J. Evans
President
Grumman Aerospace Corporation
Bethpage, New York 11714

Dear Lew:

Apollo 13 was undoubtedly one of the most critical manned space flights ever flown. The crew's lives were in jeopardy, and we were under scrutiny by the whole world, yet for a period of four days we performed in a manner for which we can all be proud. The requirement for realistic data outside the normal operating limits of the spacecraft was ever present. This information was essential in planning the remaining portions of the mission. Your organization responded to these requirements in an exceptional manner. The instant response to procedural changes was also essential to the satisfactory completion of the mission. My sincere thanks for the great job that your organization did in bringing three good friends of ours safely back to Earth.

The lunar module was never designed for the job it was called upon to perform, however, a well-built spacecraft of good design can do anything. I hope that we never again have to call upon the lunar module to perform as it did on Apollo 13, but if we do, I am confident that it will once again perform like LM-7.

Sincerely yours,

James A. McDivitt
Colonel, USAF
Manager
Apollo Spacecraft Program

cc:
GAC-Houston

Bargain hunters take note— GAA drive starts May 25

Buck up, fella, it ain't all that bad.

We're talking about the high cost of living. . . . or in this instance the high cost of fun. What can you do for a dollar anymore? See a decent show, ball game, buy a good six-pack of beer, or for that matter, a carton of brand X soda?

Rarely. But now you can "buck up" . . . because for a single dollar, you can, time after time, become involved in a year's fun and recreation.

There's no secret to this. The bargain is offered right under your nose here at work . . . it's a dollar membership contribution to the Grumman Athletic Association.

That GAA card opens the doors to many opportunities—lunch-period activities for young and old (with equipment provided by the GAA), spectator enjoyment, a variety of exhibits and displays, bargain rates on sports tickets, cut-rate tours to Europe and other tourist attractions, participation in a great assortment of recreational and competitive activities, tournaments, a stimulating list of after-hour doings for the athlete and hobbyist — including many that may involve family participation.

Good investment

Some, in fact, do involve expenses well beyond the dollar GAA membership, but the savings accrued through the organizational assistance of the GAA staff in securing group rates, and the offering of many handsome prizes, make a GAA membership card one of the best inventments anyone could find.

Whatever your idea is of a "fun" avocation, it's a good bet that the GAA is sanctioning a club or intramural sport in which you are currently involved, or one that would welcome you.

Supporting the GAA is something of a Grumman tradition. This organization dates back to the early days of World War II, and it has helped make people happy and healthy for more than a quarter of a century. Over these years, from a modest beginning of bowling and softball, the GAA has advanced with the times and tastes of people, and now offers a highly sophisticated program.

To match the ever-increasing costs of equipment, prizes, and sponsoring assistance, the GAA stages an annual appeal for membership.

The 1970 membership drive is being launched Monday, May 25, throughout all plants. The $1 membership tickets are being made available through department heads, supervisors, and foremen.

This bid for support will extend for four weeks through June 22, with the GAA shooting for 100 percent participation. The response during the 1969 campaign was impressive with 27,178 enrolling in support of the GAA program.

To supplement the appeal, the GAA is once again offering a highly attractive list of special prizes, with the winners to be decided through a drawing following the conclusion of the drive. The lucky day is scheduled for Thursday, June 25.

The 15 top prizes make a pretty picture. They will be Polaroid cameras, model 350 color pack. The camera has an automatic electronic development timer that lights up during picture development and beeps when the color print has been processed; triplet lens, electric eye, electronic shutter; four exposure ranges; Zeiss Ikon folding range and viewfinder—all with full accessory capability.

Fifty sets of Grumman glasses are also on the prize list.

Mike Cherry of the GAA staff is supervising the membership campaign, and is urging full support of the program that benefits and entertains many thousands at Grumman.

"Almost everyone faces the same problem today," he said; "that's how to get more of what you want. Well, if you want athletic competition, amusements, hobbies . . . recreation of almost any type, become a GAA member. We'll try to provide more of what you want. Remember, this is one thing that has never been touched by inflation. The GAA membership cards were one dollar back in the early forties. They are still one dollar . . . and with the tremendous spread of our activities—that's what I call a bargain!"

Bob Benn, director of the GAA, remarked: "It is very important for everyone to remember that not one dime of this money secured through the membership drive is used to finance any of the Company varsity teams. Grumman does have teams competing in industrial leagues, such as bowling, softball, golf, tennis, and soccer. But these are supported completely by Company funds. Every dollar raised in the GAA membership drive is used strictly for our in-plant activities and assistance to various recreational groups that are open to each and every employee."

Instant beauty. Judi Pagnotti (L) of Accounting, Plant 30, and Diane Muldowney of Public Affairs, Plant 5, display a Polaroid color pack camera that will be among the prizes awarded in a special drawing at the finish of the GAA membership campaign. This Polaroid has automatic development timer, electric eye, and everything to bring you instant color photo. (Harry Prodromides photo)

Kroupa, Butler, Voorhest cited by Evans for LM contributions

President Lew Evans called in three LM authorities from various areas of the Company May 11, gave them gold pins commemorating the first lunar landing, and singled out the one who has the most to contribute to the next launch. "When the next LM goes up on that stack," he said with a chuckle, "all I can say to you is: it better be ready to go."

Standing in this focus of attention was Chuck Kroupa, up from Cape Kennedy for the presentation. He is destined to succeed to the post being vacated by Vice President George Skurla, that of director of Operations, KSC.

Chuck Kroupa has been with Grumman 24 years and knows LM inside and out. He worked on the original LM proposal, in 1962, and then was in charge of KSC Planning & Operations at Bethpage. He moved to the Cape in April of 1966 to be Skurla's deputy.

Another who was pinned was Paul Butler, now staff assistant to Corky Meyer, Vice President - Product Operations. Butler's association with LM started when he was named spacecraft director of the LM-2. He then became deputy program manager for Spacecraft Assembly & Test (S/CAT), where his contributions to an integrated assembly and test program carried him all the way up through LM-7. He has spent about 15 years in Flight Test, was in Business Development on the Mohawk Program, and became deputy to Meyer last year.

Bill Voorhest earned his gold pin for his heavy contributions to the LM manufacturing program. He was assistant manufacturing manager of all the Lunar Modules, first as assistant superintendent of Plant 3 and then as manager of Plant 5. At the Cape, to which he transferred in April, 1969, he was manufacturing manager in charge of Assembly & Test, helping with the LM-4 and -5 launches and acting as consultant on LM-6 and -7. Voorhest is in his 26th year with Grumman, and since last September has been co-director, in Plant 28, of Grumman's Opportunity Development Department.

Said Lew Evans as he concluded the brief ceremony: "Keep the quality up! Keep working! And thanks a million!"

Pin-on. President Lew Evans (R) gives gold LM commemorative pins to three who contributed to LM success: Bill Voorhest (2nd L), Paul Butler (C), and Chuck Kroupa (2nd R). At May 12 ceremony in Plant 5 Board Room were Bill Schwendler (L), Grumman Aerospace Vice Chairman, and Joe Gavin, Senior Vice President and director, Space Programs. (Photo by Marie Trimborn)

The view from here—'It's nice to generate a profit . . . it's recommended these days . . .'

When you sit down and talk with Vice President Tom Johnson, director of Product Manufacturing, there's a chance of being mesmerized: He makes his job appear to be so easy!

Of course, it isn't, and how could it be? After all, he's at the top of a production pyramid of more than 10,000 people; that's about one third of Grumman's employee roll. It's a lot to handle.

After nearly a quarter of a century's experience in manufacturing, though, Johnson has developed ways of getting the jobs done. In part it's a matter of philosophy—or, better yet, management outlook. At the heart of it is a serious thought he expresses with a wry smile:

"It's nice to generate a profit. It's recommended these days."

Profit is the controlling **why** of being in business. Making that profit is the tough part of business; in simple terms, it's the **how** of making that profit that is the most formidable concept in the manufacturing vocabulary.

For Johnson, there's no single, isolated ingredient labeled "how." Rather, it's an intermix of many things, all of which are in motion. Nothing is static. Everything has to be moving, changing, because that's the nature of the market.

"The market changes because of the industrial and political—largely Congressional—environment. Now, for example, people are asking about what you get for the Defense dollar. It's a legitimate question, a necessary question: There's no justification for waste. You see this change in attitude in Defense contracting, for example, where, over roughly a five-year period, the Government has gone from a cost-plus philosophy to one of fixed price. Now, instead of guaranteeing a profit, the Government and the contractor agree on a fixed price—and how well you do your job determines if you make a profit at all."

The immediate result, of course, is that if businesses want to stay in business, they have to become more efficient, more cost-conscious. So it follows that the management structure has to be tighter, more effective, and always on the alert for innovations that lower costs while upgrading production capability. It's the slim, lean look.

One of the methods Johnson uses to achieve that leaner look is what he calls "grass roots planning." Although the "big," over-all plan is formulated in the upper echelons of the Company, the people down the line help make the actual full-blown detail plan, the plan that's the action model. Says Johnson:

"Every level of supervision has to take part. Every level has to know what's being done and how and why. The way you do that is to make every work manager, whatever the level, set down his plans—and **set down the plans in depth.** They have to be solid plans—and we scrub them up here—or they're sent back down the line. So each work manager has to think. . . ."

Increased visibility

Not only does this type of work approach save time, cut down on production mistakes, assure a smooth production flow, keep schedules on time, and provide production visibility up and down the line, it elevates the position of each work manager: He is more than a passive receiver of a message from "someone up there." Now he plays an active role in making things run in the way they should. Put in terms of, say, a collegiate role, now "he's a big man on campus"—as he should be. Or phrased another way, he can play a bigger part in guiding and preserving the ship.

That ship requires many hands and many skills. It's a big one. The personnel, for the most part, are organized in four large groups: Production, with more than 6,000 people, Manufacturing Engineering, some 1,950, Manufacturing Planning and Controls, about 1,350, and Machine Operations, more than 1,150. The directors are Dan Culleton, Vice President Ed Nezbeda, Pat Hoeper, and Al Hall, respectively.

In addition, there are special projects—Electron Beam Welding under Jerry Barfus and Detail Parts Consolidation under Brian Evans—Program Management, headed by Joe Walker, Production Development and Producibility, in the hands of George Petronio, and an Operations Staff made up of Administration (Bob Munch), Budgets (Walt Steck), and Computer Manufacturing Information Systems (Al Gordon).

The work effort embraces 14 plants.

The biggest load is on the Production shops; they turn out the product. "The plant managers are the focal points," says Johnson, "and they're the guys responsible for integrating operations. The gang in Manufacturing Enginering does the tool design, fabrication, and methodizing work; they're the how-to-do-it people.

"There's a group of disciplines working together in Manufacturing Planning and Controls to pull all the plans together, to determine how well the plans are working out in actuality. They deal with advance planning, proposal work, cost estimations, schedules, cost standards, and so on. Then there's Machine Operations; they're doing something a bit new for Grumman, that is, considering the full range of machine parts needed in specific aircraft—and deciding what machine work we want in-house versus what work should go to outside vendors. It was this kind of analysis, for instance, that led to large purchases of equipment and made Grumman one of the top five in the U.S. in profiling capability."

No guarantees for business

Merely having equipment is no guaranty of business success, however. Neither is having skilled people. What is required—excluding circumstances beyond the control of a company—is a team that really produces on time, within cost, and that is looking ahead to where the action **will be.** (For example, the percentage of machine parts in an aircraft in the 1950s was 20; today's percentage is 60. If the Company had failed to see and provide for that trend, it wouldn't have the capability of making the F-14 today.)

"The manager's job—and by 'manager' I include a lead man or a group leader—is making decisions. The higher percentage of correct decisions that he makes, the longer he'll be around and the better will be quality and production. But decision-making, regardless of level, determines the fate of programs and the fate of people on them. So it's really basic to dig into the facts **in depth.** If that were done at every step, problems would be little ones, manageable ones."

Johnson also points out that in-depth planning and a capacity to anticipate problems provides a manager with optimum freedom of action, and prevents him from being "robbed" of his options, which could lead him into "a panic mode."

There's no secret to management, Johnson would say; unless a rational approach could be classified as secret.

Of course, that's an overview, and a greatly simplified one at that. It's a broad and workable design that can be made better by any number of management tools. One such tool, for instance, is crew loading, the idea of breaking down a big job into finite skills; it's the difference between one man doing many different tasks and several men doing the over-all job in series. The series or sequential approach (for most jobs) is the more productive route.

A similar example occurs in the area of facilities planning—similar in the sense of tackling each discrete or individual task as a unit: manpower requirements, specific location, time of need, length of job, itemized cost projection, and so on.

Many items can be added to the management job list, and one of them Johnson feels to be of primary importance: communications.

Photos by Marie Trimborn

"Ideally it would be great to communicate directly, personally. I'd really prefer to be down on the shop floor, because that's where the action is. But the organization is too big and too complex to go personally to each man and woman and shake his or her hand on a regular basis. But (Vice President) Corky (Meyer) and I try to roam around, visit the plants, find out how the people feel, and give them straight answers to their questions.

"I'm very much aware of people's concerns, the need for a feeling of job security and fulfillment. I know there's a special reason for it now and I think I have to say something—something that's very important:

"Recent cutbacks in employment have come about for only one reason: **The work just isn't here right now.** There's no other reason. And when things improve I for one want to see those people right back here again.

"In the meantime, I want it known that our people here are doing a tremendous job; they're efficient, they're cutting costs, and they're turning out the products. I, personally, want to thank them for that."

Never too late

He was 86—and he just thought it would be interesting to attend a Grumman stockholders meeting. He came by train from Pittsburgh, this ex-engineer from U.S. Steel, and headed back home soon after the meeting—or after he had recovered his lost coat and hat. And of the several concerned people from Plant 28 who helped him find them: "This is the place to come to," he asserted when they presented him with an OAO tie clip.

Continue pursuit of new markets, Clint Towl says at annual meeting

(Continued from page 1)

Telephone Company and is conducting "a wide search for new business, and we feel very optimistic about their enormous growth potential." He said some of its prime areas of interest—facilities management and the development of information systems, and time sharing—are now operating.

Grumman International, Inc., he said, is developing overseas markets for such Grumman products as the Gulfstream II, the E-2 Hawkeye, and—for the future—the F-14 fighter. "At present, the possibilities for sales look better than ever before." Grumman International was contracted as sales agent last year in the U.S. and Canada by the Shin Meiwa aircraft company of Japan, manufacturers of a large seaplane, the PS-1.

Program review

Clint Towl here turned the meeting over to President Lew Evans, who gave his audience a whirlwind rundown on the chief programs in Grumman Aerospace. Leading off with the F-14, he said the program is on schedule and within costs, "and to be candid with you, we're planning to beat the first flight date of January 1971." He mentioned an option for 457 aircraft through calendar 1977.

The A-6A Intruder Program he characterized as "outstanding" and noted that "we have not had one carrier landing accident. . . .

"We have a contract for 16 modifications of the A-6 to the KA-6D tanker, and we're preparing a proposal for 32 additional models, a total of 48, through calendar '71."

Of the E-2C Hawkeye, a "second generation plane," Evans said, "We've received over $100 million to date to develop this system," and "We have a pretty good potential for sales to Japan and United Kingdom through Grumman International."

Of the OV-1 Mohawk, Evans said, "We're working to get some large-scale modification programs to convert existing OV-1Bs and -Cs to D models and we're somewhat optimistic."

Gulfstream II orders total 93 to date, with several in negotiation, and although the production rate has been cut from three a month to two, "I think the rate could go to 1½ per month and we'd still make a profit." (Later, in answer to a question, he said, "We could probably make 50 cents a share on the Gulfstream. Many of our competitors have closed down, and we're still delivering.")

Then, coming to the Space Shuttle, he made the enigmatical observation that Senior Vice President Joe Gavin, director of Space Programs, had gone to Washington "at 4:30 this morning, and the rest of us are joining him tomorrow. We're still pursuing (it) . . . . "

Reviewing the "perfect performances by LMs in Apollo 11, 12, and 13 missions," and praising the quality built into those LMs, he said, "I think we're going to see a handsome return on this before we're through."

The Orbiting Astronomical Observatory has been so successful "the astronomers are snowed under with data coming back." Grumman has a proposal in for a High Energy Astronomical Observatory of over 30,000 pounds, "with a very good possibility on that program."

Aircraft programs under development include HIPAAS (High Performance Advanced Attack System) "comparable to our work over the decade on the Mohawk," LAMPS (Light Airborne Multi-purpose System) helicopter, and "quiet aircraft."

In the question and answer period the Gulfstream II Program was described as having an excellent sales potential abroad as well as at home.

And then Norvin Greene captivated the stockholders (and top management, certainly) with his unexpected comments on the Company. In contrast to the famous "Greene Brothers" ' fairly consistent probing of management at stockholders' meetings over the years, here was a warm, friendly, confident voice being raised on behalf of the whole Corporation. Mentioning the troubles of other aerospace companies, Greene said, "It is comforting to note that the Grumman Corporation earnings are holding up at a very substantial level. You're not omitting dividends. It is a source of satisfaction to us that your accounting is honest. . . . You do have very solid programs—the F-14 is the largest in recent years—and it's going beautifully."

Stockholders photos by Walt Hudson, Nat Scherer, and Bruce Montgomery

When we were very young—

'Airplanes were simple in those days'

His memory razor-keen, his conversation giving off sparks, as it always has, Julie Holpit recently paid a little visit to Bethpage. Now retired and living in Baldwin, Holpit is the well remembered wizard who headed the Experimental Department when the Grumman Company was young. He it was who rallied his men and built an experimental XF3F-1 in six weeks and another in three weeks when two crashes had threatened to wipe out Grumman's chances for a Navy contract. The third plane was a success, and the Navy ordered 54.

In the early days "we used tinsnips for cutting out skins, and I brought my sewing machine from home to sew the wing fabric," he recalls. "In the early thirties the Company was poor—we were really poor."

Holpit, whose permanent number is 5, was one of the Company founders. "Julie invested in Grumman Aircraft Engineering Corporation when the depression made investment in a young company seem more than a little risky," Vice President Jack Rettaliata has pointed out. Holpit and Ed Weick were the only two from the shop area of the Loening Company who put money into the Grumman Company, and Julie is proud of that fact. They did buy stock.

Q: Julie, you were one of that small group who came from Loening, along with Roy Grumman and Jake Swirbul, in January 1930?

JH: Yes, I started in Baldwin the first day of business. I'd been with Loening and Keystone for 12 years, but before that I'd worked for L.W.F. Aircraft in Long Island City and College Point. I had a lot of experience. They called me "Rube Goldberg." I graduated from P.S. 83 in Ravenswood (I lived near the Queensboro Bridge—before the bridge was up), and I went to work when I was 14.

Q: There's a little story about the first days in Baldwin when a passing motorist ran into a plane. Do you recall that?

JH: Sure. We had bought this amphibian that Loening had built. Brought it back from somewhere in Pennsylvania to fix it up. It was big, and the hull stuck out the door into the street. This was our first piece of repair business in Baldwin. Then a guy comes along in a car and runs into the nose, and he was going to sue the Company because his car was smashed. Jake talked to the guy. Jake was a good politician. And he got that straightened out, and we fixed up the airplane and sold it to Grace Steamship Line.

Q: Everything wasn't always rosy in Grumman's early history. There were some accidents, weren't there? What about the one that involved Admiral Robert Pirie?

JH: That was with the FF-1—he was flying the FF-1. He couldn't get the wheels down. It landed on its belly. That was on January 2nd, 1933. I had to go all the way to St. Louis to fix this airplane, but the train was so slow they'd got the plane fixed before I got there.

You know I was a Service rep, don't you? For years. In 1933 I went to Hawaii. We had one airplane on the Saratoga and one on the Lexington. That was the FF-1. We built them in Baldwin.

Q: What were the accidents that put the pressure on you and your men in Experimental in 1935?

Photos by Nat Scherer

JH: They happened to the XF3F-1. The pilot was very well known: Jimmy Collins. He cracked up. He had been hired to test this plane. It was built to withstand about 12 Gs, but he pulled it out too fast (it went to 15 Gs), and the airplane fell apart in the air.

I said, "Why don't we build another airplane?" and I remember Mr. Grumman saying, "What did you say?" And I said, "We've still got two months before we have to deliver to the Navy. We'll build it in six weeks."

"So we started. All the men in Experimental were crackerjack mechanics. We all worked together like clockwork. We were all in one area in the Farmingdale plant, in the back of the building.

"So we got it out in six weeks. We had a pilot by the name of Lee Gellbach to dive this second airplane. And he dove it right. But he takes it up to about 18,000 feet and it goes into a spin. The motor stalled. Comes down like this. And the pilot jumps. Well, Gellbach survived but the airplane cracked up. This was in Virginia, and Fred Armstrong and I were there.

"So then Jake Swirbul gets on the phone: "What happened, Julie?"

"Bad news."

The next day at the Bureau of Aeronautics all the brass were there. Jake came down. Admiral Ernest King was in charge. They showed the pictures taken in the air.

Admiral King came over to me. "Julie," he says, "when do you think you can build another airplane?"

"Well, I think we can build one in 21 days."

"Get back and get going!"

So I went back and we built an airplane to the date: 21 days. We got an order from the Navy for 54. That's it. That's the story.

Q: What was your function in Experimental?

JH: I laid all the work out. Each man had his own department. When experimental work was slow, we worked on production airplanes. In Plant 1 we built 55 fuselages for Canadian Car & Foundry in 90 days. After we got started, 40 men without any previous experience could build a fuselage in one day.

I remember one time before World War II began, we were building the TBF, and someone comes along and says ,"Julie, we've got to move the engine ahead 10 inches. The thing is tail heavy."

So that day we worked everything out, moved the whole engine, the whole bulkhead and all, and put a piece in that section, right behind the main bulkhead—and we did that in 24 hours and had it out.

We had to cut all the controls, the wires, everything. Had to do this and put this section in. We built every TBF after that just like that.

Airplanes were simple in those days, don't forget. Nothin' to the darn things: a motor, a fuselage—that's all. I remember building a little red airplane for Mr. Grumman to fly. We built it in Experimental when we weren't busy—built the whole thing from scrap, from parts left over, and he liked it. It was his favorite. It was like the SF-1 Scout, but we took the guns out of the rear and put a second seat in. He had learned to fly at Pensacola and he flew for about 30 years. He was an expert.

Q: When did you start seeing changes in production methods?

JH: When we moved to Plant 5. Started a Planning Department, a Tool Department, all kinds of machine shops—and it got BIG.

Q: Do you have any advice for young men today?

JH: I can tell you we're going to have more chiefs than Indians. Nobody wants to work.

But I'll tell you some good men who worked with me: Chet Engvaldsen, Otto Kuhn, Jake Boedigheimer (a jeweler by trade), Ken Lee, Lou Willing, Pete Toronto, Henry LePul, Al Capra. They were all crackerjacks. And here are some others who worked in Experimental and have contributed a lot to Grumman: Charlie Solarski, Henry Kasin, George Burkhardt, Charlie Hajek, Larry Holzapfel, Louis Galgano, Emilio Ghiosso, Jack Quinlan, Ben Gambee, Paul Dillon, Dick Hutton.

Following that verbal tip-of-the-hat toward many of his old co-workers, Julie Holpit departed, leaving behind some unquotable quotes and a few acerbic observations on the state of the Company and the world in general; unquestionably, he is still the colorful person that he was when Grumman was young.

Late, late show. For jonquils, that is. Warm weather arrived late, so Grumman Tulip Show featured more narcissi than usual. Winner of Best in Show, with jonquil assortment, was Kay Zuk of Employee Services Office, Plant 2. Vice President Alex Alexandrovich did the honors.

We get letters . . .

We received a letter recently from someone who, although retired, is very involved with life . . . and with Grumman. Since we try to print letters we feel are of general interest to Grumman people, his report follows:

Public Affairs Dept.
Grumman Aerospace Corp.
Bethpage, N. Y.
Gentlemen:

I want to thank you all very much for sending me every issue of your Plane News, which I read anxiously and keep in my library and go back to often.

It strengthens the invisible string which keeps me attached to Grumman and Grummanites.

Now, I have moved to a new and permanent address, shown below, where, I hope you will continue to send me your Plane News.

I would like to ask also for a copy of the section, "At your service," whenever that section is not an integral part of the paper itself, for I enjoy reading it immensely because it adds its little bit in understanding the psychology of the Grummanite family as a whole, viewed, of course, from my little window almost thirty-two hundred miles away.

I am here, in Rome, as an oil portrait artist preparing myself for a one-man exibition of my works. It will be a long and pleasant vacation, also, because I have fallen in love with my native city again. I find it very beautiful: the old and the new! I have a nice art studio at the top floor of an ultra-modern apartment house in one of the oldest streets of Rome's periphery, with tall pine trees all around. From my window I can see far, miles over and beyond the City, and the horizon partly hidden by tall, snow covered mountains: the "Casbelli Romani" and the Apennines.

I think I am very lucky to have found such a beautiful spot, where I can really dream and almost watch and follow the astronauts to the moon and back! Sincere congratulations to the "co-workers" of the Lem that came through when almost everything else failed, saving the three heroes' lives! Let's try again, soon!

Very sincerely,
Igino Pescatori (59032)
Via Del Pigneto 110
Int. 22
00176 Rome, Italy

One sure sign of spring— Kay Zuk takes floral honors

A tall, pale beauty, "Spring Jewel," earned a blue ribbon in tulips, and an assortment of jonquils took the blue and Best in Show for Kay Zuk of Employee Services Office, Plant 2. The occasion was the annual Tulip and Narcissus Show, held May 7 at Plant 2 cafeteria. The display made a colorful accompaniment to soup and sandwiches for the noontime lunch crowd.

Next on the agenda, says John Steffens, new Garden Forum director, will be the Rose Show; it will be held Thursday, June 11, in the Plant 2 cafeteria. Here are some of the new rules and attractions for the next show:

- There will be many more chances to win blue ribbons, whether you are an "old pro" or a newcomer. Each of nine classes is broken down, as, for example, in Class 1 (which is called "Single Red"). In this class will be four categories: Light Red, Medium Red, Dark Red, and Novice (any red). A silver bowl will be given to the best in each class, and a blue ribbon to the best in each category.
- All the rules are set forth in a booklet. Pick up a copy after June 1 in any Employee Services Office.
- Novices are being urged to compete. For the show, a novice is one "who has never won a blue ribbon in a rose show."
- Jackson & Perkins, rose growers, are contributing six Gene Boerner floribunda rose bushes as a special prize for the "best floribunda" winner.

Rose Show managers are Chuck Belensky, Ext. 2275, Pete Haring, 1152, Gus Preiser, 84612.

The Tulip and Narcissus Show in Plant 2 cafeteria May 7 had some little surprises. For the first time in about 15 years the weather had been cool enough so that an impressive array of narcissi and jonquils challenged the judges (Mrs. Ralph Ferd and Mrs. Robert Gay).

Hitching a ride

An arrangement of pink camellias hitched a ride on a Company truck from Glen Arm to Bethpage, to earn an honorable mention for Helen Malachowski of Plant 56 Management & Control. It looked fresh and sassy, thanks to an overnight stay in Plant 2 cafeteria's refrigerator. And so caught up in the spirit of the show were Joe Weremeichik and Al Collins of the Cafeteria staff that they made what proved to be the conversation piece of the show and "good enough to eat"—an arrangement of vegetables, featuring some radishes and a tomato, some cucumber, chicory, and a slice of lemon.

Vice President Alex Alexandrovich presented the prizes. Winners were:

PARROT - Steve Kertesz, 1; Kay Zuk, 2; Mike Smith, 3 & HM.

OTHER TULIPS - Kay Zuk, 1 & 3; Charles Guarneri, 2; Mike Smith and Mal Ketcham, HM.

NOVICE - Dot Kappenberg, 1 & HM; Ted Wakulinski, 2; Will Pettit, 3; Frank Vernon and Mary Wakulinski, HM.

SINGLE NARCISSUS - Mal Ketcham, 1 & 3; Kay Zuk, 2; Mary Wakulinski, HM.

SINGLE SEASONAL - Gus Preiser, 1; Ida Tallman, 2; Frank Sadowski, 3.

ASSORTMENT (TULIPS) - Mike Smith, 1; Kay Zuk, 2; Dot Kappenberg, 3; Bud Fisher and George Wagner, HM.

ASSORTMENT (NARCISSUS/DAFFODILS) - Kay Zuk, 1; Mal Ketcham, 2; Dot Kappenberg, 3; Bud Fisher, HM.

ASSORTMENT (SEASONAL) - Dot Kappenberg, 1; Frank Sadowski, 2; Charles Guarneri, 3.

ARRANGEMENT - Frank Tallman, 1; Ida Tallman, 2; Dot Kappenberg, 3; Will Pettit, Joe Weremeichik, Al Collins, and Helen Malachowski, HM.

Short shots

Paul Kanzler, deputy director of the Materials and Processes Department, has been named Man of the Year by the L.I. chapter of the American Welding Society. The award will be made at the group's annual dinner-dance at the Old Country Manor in Plainview on June 5. Kanzler is being honored for his contributions in the fluxless induction and electron-beam welding fields. . . . Wow! Talk about records. Cdr. N. P. Carr, executive officer of Air Antisubmarine Squadron 30 based at Key West, Fla., logged his 5,000th flight hour in a Grumman S-2 Tracker recently. During 15 years of flying the Tracker, Commander Carr has racked up over 600 carrier landings, and has flown a distance equivalent to more than 30 times around the world.

Ed Collins, assistant section chief of Vehicle Production Engineering in Plant 2, has the distinction of achieving the second highest academic record in the history of C. W. Post evening school, and he scored first in engineering for the whole school. . . . Oh, the booby traps that beset a newspaper! Rushing through the Calendar of Events, the typist taps out "Duplicate Bride Club," and upon discovering her mistake thinks, "Ah-ha, let's leave it that way. Somebody (Bob Bradshaw, for example) will have a real picnic discovering that one." Especially as the notice goes on to say, "Partnerships arranged."

Donald P. Loren, son of Nicholas Loren of Plant 3 Maintenance, has been appointed to the United States Naval Academy by Senator Jacob Javits, so it's off to Annapolis for Don the end of June. He's president of the National Honor Society at Berner High School in Massapequa and executive officer of the Junior Naval Reserve. His father has been with Grumman six years. . . . And Jeff Sachau, son of Bill Sachau of the F-14A Program at Plant 88, Point Mugu, Calif., has been notified of his appointment to West Point Military Academy. Grumman sent Jeff to Houston four years ago to receive the first Space Exploration merit badge, presented by Astronauts Jim McDivitt and the late Ed White.

W. J. Shelton, Sm. Parts Fab. | R. C. Lapp, Spotweld | B. W. Blossom, Ctr. Sec. Final | C. N. Breden, E. B. Hot Form | A. E. Stevens, Manpower | D. L. Mott, Mech. Process | C. B. Bain, Spotweld | M. Schlueter, Final Assem. | F. F. Kokoska, Machine Shop

Seventeen men hit 30-year mark, 21 reach silver anniversaries

The unusually large number of 30-year men in May is a reminder that Grumman was expanding fast in the spring of 1940. The Company still operated from only one plant in Bethpage—Plant 1, where Wildcats were being turned out in large numbers. Those rounding out three decades of service are: Frank J. Vignola, Prototype, John Kacinski, Instrument Test, and John J. Logan, Fuselage Major Assembly, all Plant 1; Benjamin W. Narucki, Sub Assembly, Plant 2; John B. Greenhouse, foreman, Wing Sub Assembly, and Niel J. Guilfoyle, Mechanical Inspection, both Plant 3; Leo Siemion, Methods Engineering - Aircraft, Plant 4; Patrick J. Cherry, Treasurer, Grumman Corporation, Lester G. Backer, Surfaces & Assembly, and August Walsky, Avionics Management, all Plant 5.

Also Walter J. Foster, Instrument Project & Staff, Plant 6; Basil A. Papa, Plant Management & Staff, Plant 15; Joseph A. Nicoletti, P/S Program Management, Plant 27; Michael Haluska Jr., Controls, Plant 29; Robert H. Bailey, P/S Supply Operations Management, Plant 30; Philip Musa, Data Systems Administration, Plant 41; John L. Rowe, Field Base Administration, Plant 80, San Diego.

The 21 whose Silver Anniversaries are being noted this month will recall that V-E Day in early May of '45 signaled the approach of victory for the Allies in World War II. Completing 25 years with the Company this month are:

PLANT 2: William J. Shelton, Small Parts Fabrication; Raymond C. Lapp, Spotweld; Benjamin W. Blossom, Center Section Final; Charles N. Breden, Electron Beam Hot Form & Stress; Augustus E. Stevens, Production - Budgets Manpower; Daniel L. Mott, Mfg. Technology Mechanical Process.

PLANT 3: Clifton B. Bain, Spotweld.

PLANT 4: Martin F. Schlueter, Final Assembly.

PLANT 5: Ferdinand F. Kokoska, foreman, Machine Shop; Vernon E. Toland, Final Assembly; Herman R. Behan, Methods Engineering - Space.

PLANT 6: Albert L. Brown, Plant Receiving & Stores; Edward W. Hartmann, Electronics Inspection.

PLANT 11: Chester E. Everoski, Center Section Sub Assembly.

PLANT 15: William G. Schramm, Subcontract Management.

PLANT 20: Sigmund P. Horoszewski, Transportation.

PLANT 22: Dominick Martino, Methods Engineering - Special Details.

PLANT 25: Erdos V. Case, Structural Designers.

PLANT 27: Joseph Spark, Sub Assembly.

PLANT 30: Harold E. Tumey, Engineering, Civil/Architectural.

V. E. Toland, Final Assem. | H. R. Behan, Maths. Engg. | A. L. Brown, Recvg. & Stores

PLANT 77: Kirkwood J. Smith Jr., OV Program Management, Stuart, Fla.

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Fifteen men complete 20 years of service with Grumman in May:

PLANT 2: Stefano Malesky, Press; Richard A. Nowak, Prototype.

PLANT 5: Joseph A. Calandra, Plant Stores & Distribution.

PLANT 6: Joseph F. Colli, Production Control - Parts Control, Major.

PLANT 7: Alfred J. Quinby, Airport Operations.

PLANT 11: Paul Asmussen, Tool Fabrication - Plaster Tools.

PLANT 15: Harold V. Proskey, Jr., Product Support Administration.

PLANT 22: Leo J. Battista, Product Support Site Supply.

PLANT 27: Frank Walker, Sub Assembly.

PLANT 28: Brian P. Masterson, Plane News editor.

PLANT 30: Alexander Waite, Requirements Planning.

PLANT 35: George S. Viteritti, Structural Designers; William D. Ball Jr., Quality Control Tech Services.

PLANT 38: Frank A. Brady, Production Control - Shop Load Analysis; Arthur W. Gilmore, Training & Development Administration.

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Thirty-four men celebrate 15 years of service:

PLANT 1: Earl H. Schroeder, Production Control - Parts Control, Major; John A. Eder, Industrial Engineering, Calverton; Norman Simonsen, Equipment Lines.

PLANT 2: Leonard F. Enlund, Prototype; George DiNatale, Support Equipment Production; William Brinkerhoff, Lathes & Mills; Andrew H. Vinson, Facilities Maintenance; James M. Wagner, Photo & Television.

PLANT 3: Edgar D. Gildersleeve, Engraving; Walter M. Beauchamp, Honeycomb Pre-Fit; Frederick Ford, Production Control - Parts Control Detail.

PLANT 4: Webster N. Baker Jr., Machine Operation - Tech Services; Henry C. Courten, P/S Structural Mechanical Engg. Design.

PLANT 5: James A. Blake, Flight Avionics; John W. Genega, Component Application & Design Proc.; John V. Iverson, Engineering Professional Development; Arthur J. McIntyre Jr., Digital Computing Management & Staff.

PLANT 6: William C. Schultze, Instrument Test.

PLANT 7: Ferdinand J. Rudolph, Flight Safety; Rodney G. Smith, Computing Systems Project Mgt.

PLANT 12: Charles J. Weizenecker, Material & Process Admin.

PLANT 15: Robert E. Lee, Systems Integration & Interface Con.

PLANT 25: Albert O. Johnson, Advanced Technology.

PLANT 28: Francis E. Campbell, Personnel Administration.

PLANT 30: Frederick C. Dochtermann, Product Support Provisioning Requirements; August C. Mader, Engineering Mechanical.

PLANT 33: Nemours P. Holec, Facilities Maintenance.

PLANT 34: William E. Sendell, Product Support Technical Writing.

PLANT 35: George R. Schriro, Aeroelasticity Methods; Daniel Weiss, Fluid Mechanics; John D. Halajian, Advanced Space Systems.

PLANT 36: Joseph C. Kiely, Mfg. Engineering Project Management.

PLANT 38: Nathan A. Anello, Production Control Shop Load Analysis.

PLANT 87: Anthony H. Sliber, Program Management, LM.

A representative group . . .

Grumman is well represented again this year on the technical committees of the American Institute of Aeronautics and Astronautics: Air Breathing Propulsion, Frederick Berger; Aircraft Design, William J. Tebo; Astrodynamics, Richard E. Kopp; Atmospheric Flight Mechanics, Joseph Childs; Communications Systems, Theodore Nelson; Flight Testing, Frank G. Edwards; Guidance and Control, Norman Lewin; Life Sciences and Systems, Clifford P. Seitz; Liquid Rockets, O. S. Williams; Management, Lawrence M. Mead; Missile Systems, William Djinis; Space Systems, Thomas J. Kelly; Structural Dynamics, Gabriel Isakson; Structures, Warner Lansing; Support Systems, George Emilio.

E. W. Hartmann, Elec. Inspec. | C. E. Everoski, Ctr. Sec. Sub. | W. G. Schramm, Subcon. Mgt. | S. Horoszewski, Transportation | D. Martino, Meths. Engg. | E. V. Case, Struct. Designers | J. Spark, Sub Assem. | H. E. Tumey, Engg. | K. J. Smith, O-V Program

They didn't sag at the harbor

That old saw about being "down but not out" held true in the GAA table tennis tourney at Plant 32, Sag Harbor, where title winners in both singles and doubles staged dramatic comebacks.

John Swobodzinski won the singles crown after being beaten in the winners' bracket of the double elimination event by Charles Mott. He fought back from the losers' circle to earn another chance against Mott; he beat him twice in a row for the title, 21–18, 21–19, and 21–19, 21–19, 21–18.

The doubles produced a great rally by Ken Conrad and Bob Kiselyak, who lost to John Sadowsky and Lou Nolan early in the play. They then won seven straight matches in the losers' bracket to reach the showdown tests. Conrad and Kiselyak defeated Sadowsky and Nolan, 19-21, 21-15, and 21-18. In the best three-of-five finale they won 22-20, 21-17, and 21-11.

Open GAA golf tourney season with kickers' play at Bethpage

While most of the 47 Grumman golf leagues have already started raising divots, the GAA tournament season gets underway Tuesday, June 9, when the spring kickers' tourney will be staged over the Yellow course at Bethpage State Park.

Registration for the tourney should be made with Mike Cherry of the GAA office, Plant 28B, who may be contacted on Ext. 2269 or 2133. Entries will be accepted on a first-come, first-served basis, as the field will be limited to 100 golfers. The first foursome will tee off at 11 a.m.

The entry fee will be $11 each. This includes greens fees, reserved starting times, a shot at many varied prizes, and a buffet dinner following the tourney in the Bethpage clubhouse. Cherry suggested that golfers check in one-half hour before their scheduled tee time, or they could lose their starting position and be rescheduled to follow the last foursome.

The event, first of five tournaments on the GAA slate this year, is open to both men and women.

Except for low-gross prizes for men and for the senior division (over 50), the net and kickers' prizes will be decided by the Callaway handicap system. For those eligible for the senior competition, golfers may advise Cherry at the first tee if they prefer to compete in that division.

There also will be a long driving contest for men on the 12th hole (ball must be in bounds) and a closest-to-the-pin event for men and women on the 170-yard third hole. A golfer will be eligible to win only one of the gross and net awards. The kickers' drawing will be for scores between 70 and 80 after handicap is deducted from the gross score. Prizes will be distributed following the buffet dinner.

What's a kickers' tourney? Why, should you get a bad lie—use your foot. Actually, winter rules will be observed. All putts must be holed.

Another kickers' will be held August 11, while Mixed Pinehurst events are set at Bethpage June 24, July 22, and August 26.

Cherry advised all golfers that casual dress is acceptable for the buffet dinner following the tournament play.

plane GRUMMAN news

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Grumman gunners pistol peers again

Grumman Rod & Gun Club pistol teams picked up two more titles immediately on the heels of the Gulfstream's recent victory in the Sharpshooter division of the L.I. Industrial League.

The Trackers won the Expert division title by outshooting Kollsman in a tense match, 1,051-1,046. Al Berka was top gun with 273; Rodger Seibel and Joe Oliveri fired 262s and Tom Mugavero 254.

In the South Shore League, the Grumman Centerfire team clinched the title although there is still one more match remaining. Al Berka set the pace in this match, too, in a 1,041-899 win over Tackapausha. Fred Wicks shot 260, Howell Fesq 255, and Ed Moles 252.

Bernabeau top angler

Hank Bernabeau of Plant 34A won the $70 contest prize for the largest fish on the first outing held by the Grumman Rod & Gun Club at Montauk earlier this month. Bernabeau hauled in a 16-pound cod, while Marilyn Bloes of Plant 34 took a 4-pound shark.

Wright has his night with 278; Demons' Rocket reign extended

Tom Wright had been dug into last place with the Seconds in the Trader league this season, but in the next-to-last round he rolled right to the foreground with a dazzling record game of 278 to surpass Steve Kish's mark by 10 sticks. Wright's feat took some of the glitter off the Mohawks' title-clinching with the combination of Joe Mallins, Werner Landsberg, John Salerno, and Cliff and Frank Gilmore. Stars in the final round were Hal Vetter (246) and John Salerno (614). . . . Frank Zazarella closed out the bowling season in the Classified circuit with a 604 as the Unknowns—Art Mahlstedt, George Egor, Dick Wagner and Henry Burkhardt—carried off the top hardware. . . . The Headpins copped the F-111 bunting in a sizzling duel with the Cyclones, winning by two points with the combo of Bob Tiedemann, Ken Watson, George Reuther, and Hank Lada. They also had the season's high team game of 843. Al Bozek's 227 and a 607 by Charlie Karpinski led the finale. . . . Barbara and John Marks, Diana Goldecker, and Andy Goshefski, rolling as the MGs, won the Hawkeye Mixed crown. . . . The I C Demons set a record for consistency, winning the Rocket loop crown for the fourth straight year, shading the Defiant Four in the Peterson point system by 14 pins over the season, after both clubs had the same won and lost record. The winners were Gary Slater, George Katz, Irving Mitzelman, and Joe Sorro. John Bukowski's 624 and Don Bello's 239 were the top individual marks. . . . Dick Lindstrom walked off with both records in the Patchogue Mixed with 257 and 668, while Maggie Gaynor matched this performance on the distaff side with 223 and 600. The Up Tight team of Joan and Gene Burgess and Anita and Ken Becker won the team laurels. . . . The Four Roses carried off the team bouquets in the Woodbury Mixed with Dot Richards, Nancy Roethgen, Gene McGrellis, and Al Martorano. . . . Joe Aquilino was the big gun in the Aerospace league with 242 and 600, while Phil Fey contributed a 237 to the excitement.

Buettner ranks high by defeating Lowe

John Buettner, who won the Plant 34 table tennis singles tourney title, was under pressure from Steve Lowe throughout the late stages of the double-elimination play before stowing away the championship trophy. Both players are from Product Support.

Buettner had to meet Lowe in three critical matches. He beat Lowe in the winners' bracket semifinals in the first meeting, and then defeated Pete Chachakis, in two 21-12 games to win that pairing. Lowe topped Bill Dunmyer in the losers' group, 21-18, 20-22 and 21-8. He then defeated Chachakis in the losers' finals, 21-15, 21-13, to get another shot at Buettner.

Lowe evened this stiff rivalry in their second meeting, 21-19, 21-18, and in the showdown test started off with a first game win of 21-17. Buettner then rallied, however, and won three straight for the title, 21-16, 21-19, 21-19.

Miron, Moore shine in softball circuit

Ed Miron was the big hero in the Jets' opening game in the second-lunch softball circuit at Plant 3, slashing a pinch-hit single in the bottom of the sixth to give his club a 5-4 victory over the Commanders. The Jets played errorless ball, but were outhit by the Commanders, 11-7.

Pete Moore powered the Met Fits to a 10-8 triumph over the Bombers at Calverton to feature softball play at Plant 7.

Moore banged three hits, including a double and homer for four RBI's. Ben Brunskill rapped a triple and Mike Wegler had two hits as the Met Fits won the game with five runs in the top of the sixth.

Three in one

Tee leaves at Savannah have already predicted a great golfing season for weekend swingers at Plant 55.

Although the 1970 action is still in its infancy, three of the Grumman bag-toters have already joined the "Hole-in-One Club" and have been weighed down with special prizes from golf associations, sporting goods manufacturers, and golf magazines.

Latest acer was Roger Townsend, who lofted a 135-yard tee-to-cup shot at the Bacon Park Municipal Golf course. The first big shot of the year was credited to Lloyd Page, who bounced in a 146-yarder at the Mary Calder course. Ted Lippincott soon joined Page on the honor roll, with the longest ace, getting a 155-yard beauty on the Fort Stewart course.

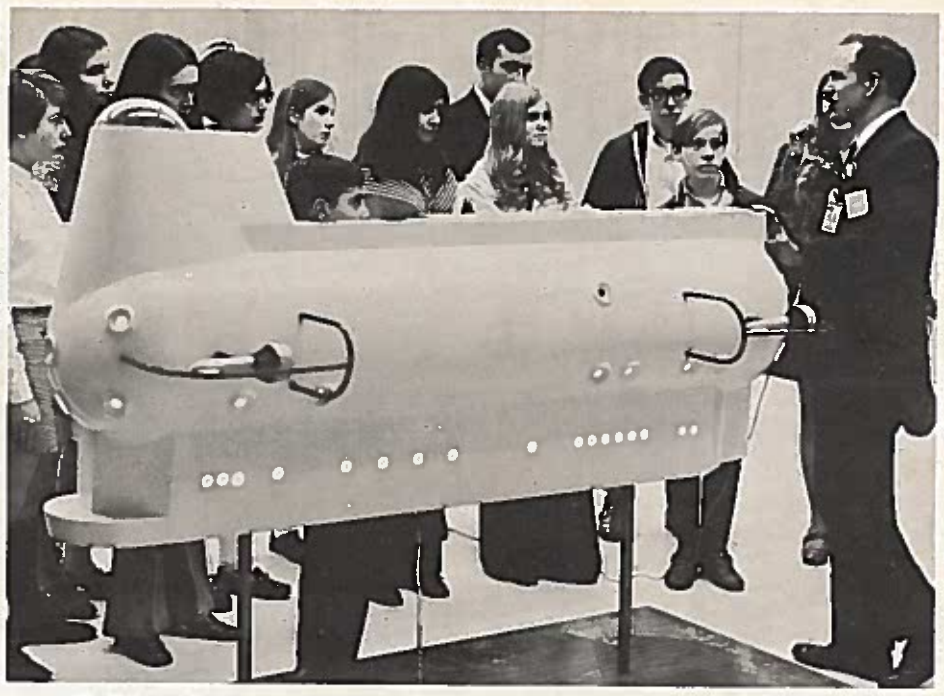
Criminale champion in Open skeet shoot

Plant 55 in Savannah boasts one of the most promising skeet shooters in the South in Chuck Criminale of the Engine department.

Criminale recently won the Class D championship in the Southeastern Open shoot at Jacksonville with a sparkling 96x100, shattering 67 straight targets before missing. A week later he won the Great Southeastern event at Savannah with 95x100.

Competing for the Forest City Gun Club, Criminale will vie in the Georgia State championships next month and the World's Skeet Shoot championship in August in Savannah.

Summing up. Dick Geller, chairman of the Environment Day program, talks with one of the groups that visited Grumman at the end of an information-packed day that featured lectures, tours, and exhibits—all focused on ways to improve a deteriorating earth environment. (Photos by Larry Van Wallendael)



Sub topic. With the help of Consulting Pilot Glen Kingsley, guests of the Environmental Seminar are briefed on the design and functions of the Grumman-Piccard research submersible Ben Franklin. After its 1,444-nautical-mile Gulf Stream drift, it is serving as an ecological monitoring platform.

Cleaning up our environment—it's a life or death challenge

"Yeh, I know, but what can you do about it?"

How often have you heard these tones of hopelessness? How often have you slid into agreement with those sentiments, believing that there really isn't anything you can do?

And then you're a little surprised when someone comes along and starts to do something about the "it" that you thought was out of reach and beyond solution. Such a process of doing something positive and worthwhile about a seemingly hopeless problem is well under way right now. In fact, a group of Grummanites has been tackling one of those "you-can't-do-anything-about-it" problems since last autumn—and, by the way, making some real progress. What they're tackling is the life-and-death issue of the environment we live in.

The "they" are the members of the Environmental Technology Seminar, a group that mushroomed into existence as though by spontaneous generation. Suddenly last autumn there they were, some 150 people, scientists, engineers, and others, all with a single purpose: improve the environment.

Swung around the other way, the Seminar fights against pollution and despoliation of nature.

That there is high interest and concern about these issues is evident: The Seminar has grown to 250 or more people, a lecture series has been conducted from the beginning, both public and private agencies have expressed deep interest in the Seminar's work, experts in the environmental sciences have exchanged information and taken part in study efforts, and, just prior to Earth Day, the group held a successful environment-day program, "A Clean Environment—A Technological Challenge for Youth."

All-day seminar

About 400 high school and college students came to the all-day affair April 18 to hear lectures, visit some of Grumman's facilities, and see displays.

The urgency of the problems was summed up well in the foreword of the brochure handed out to each student:

"Man's failure to provide for adequate disposal of waste products pollutes the air he breathes, the water he drinks, and the land he lives on, to the point of threatening his welfare, his health, and ultimately, his very survival."

An overview of three problem areas was provided by members of the Seminar. Bob Walsh and Rick Carbone spoke of air pollution, Al Gagne dealt with water pollution, and Dr. Alex Hershaft, general chairman of the Seminar, spoke of solid waste pollution. Professor Tom Lauth of Hofstra assessed the political ramifications of making the environment more livable.

"Each of the speakers," said Dick Geller, chairman of the day's program, "directed his remarks to specific problems that exist right now and are visible. Each dealt with hard facts."

Facing facts

Some of those facts brought home forcefully the real dimensions of the problems now facing us. For instance:

- Population centers generate wastes at a rate exceeding what can be dispersed and assimilated by natural processes
- There is a correlation between certain forms of heavy air pollution and deaths of people afflicted by respiratory disorders
- Industrial and household activities contribute about 40 percent of the total burden of man-produced air pollution
- Poorly treated liquid wastes threaten aquatic life and make many waterways and lakes unfit for recreation much less for human consumption
- There's a growing burden of solid wastes (garbage, rubbish, and metal scrap) while dumping space is dwindling around major population centers.

These examples are but a slim few of those discussed during Environment Day. Solution of the escalating pollution problems is not calculable in dollars; billions and billions are involved. This is not to say that the task of cleaning up our world cannot be done. For the most part, the technology is known, and is improving. The key word in the solution seems to be commitment—on a massive scale.

Those who made the tour of some Grumman exhibit areas saw what can be done. A closed ecology system has already been proved in the flights of American astronauts. Clean rooms have been developed that guarantee pollutant-free areas. Waste treatment plants, such as the Grumman one in Bethpage, can turn raw sewage into a remarkably clear effluent that can be discharged into final settling basins. And the list goes on and on. . . .

"I believe that both the problems and the potential solutions made a large impact on those who attended Environment Day," says Bob Skirkanich, program coordinator. "It got people thinking about combatting pollution, and that in itself is a big step."

Other big steps have been made through the Seminar's past presentations, which ranged from the environmental law and municipal refuse collection to disposal of auto hulks and some meteorological aspects of air pollution. At the same time, there has been cooperation between the Seminar and the Corporation's ecological efforts that are headed by Bill Schwendler Jr.

On top of all this is a growing flow of communications among concerned individuals, private and industrial groups, and governmental agencies—a sort of in-action library that can affect policies and programs throughout the nation. In short (as the song goes), "This could be the start of something big."

Something really big!

Scaling his efforts

William C. Bourbeau, a Navy Aviation metalsmith attached to AEW Squadron VAW-122 at NAS. Norfolk, is a fella, you might say, who really loves his job. He takes an active interest and pride in maintaining the Grumman E-2A during duty hours, and now has carried work on the Hawkeye into his leisure time.

His off-duty work on the E-2A, however, is concentrated on what will probably be the first radio-controlled model of the E-2A to enter model plane competition.

For the past five months, Bourbeau has been working on the model and it's still in the construction process. It now weighs 2.75 pounds—when finished it will be 15 pounds, and even at this stage of construction fine scale and detail are evident. Detail has been achieved by the use of photo enlargements, steel tape measurements of the E-2A, and much reference to both maintenance instruction and repair manuals.

The control package for the model will be of 12-channel design, and will operate two engines rated at .80 hp, retractable landing gear, rudders, elevators, ailerons and flaps. Scaled at 15:1, the E-2A is of semimonocoque design with skin of thin balsa wood, reinforced at stress points with hardwood. Six-foot wings fold exactly like the current E-2A/B wings. Bourbeau is now waiting for a report on the check-out of radio receiver weights, which must be of proper weight and balance.

Home, or on the job, for Bourbeau it's the E-2A all the way.